

Total Maximum Daily Load (TMDL) Implementation Plan Development



Gwynns Island, Milford Haven and Piankatank Watersheds
Mathews, Middlesex and Gloucester Counties

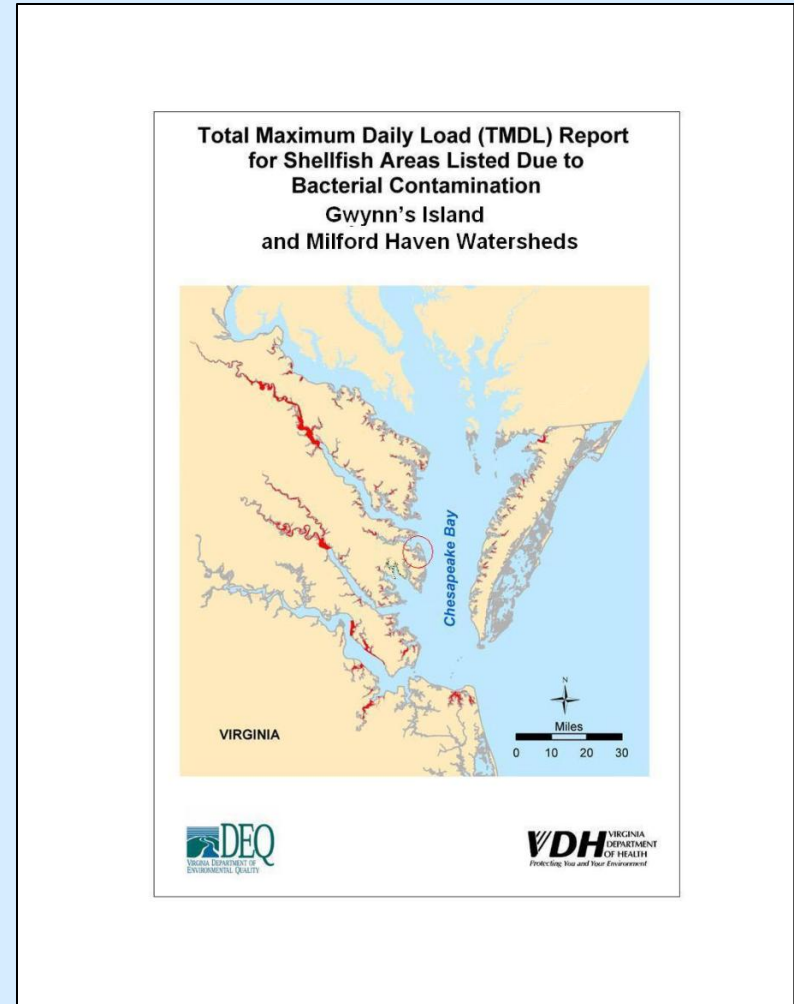
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VA Dept. of Conservation and Recreation
May 23, 2012



The TMDL Process: 3 Steps

- TMDL study (DEQ)
- TMDL implementation plan (DCR/DEQ)
- Implement plan (DCR & partners)



Streams with TMDLs and included in this IP

- Queens Creek
- Stutts Creek
- Morris Creek
- Billups Creek
- Edwards Creek
- Piankatank River (upper)
- Harper Creek
- Wilton Creek
- Healy Creek
- CobbsCreek



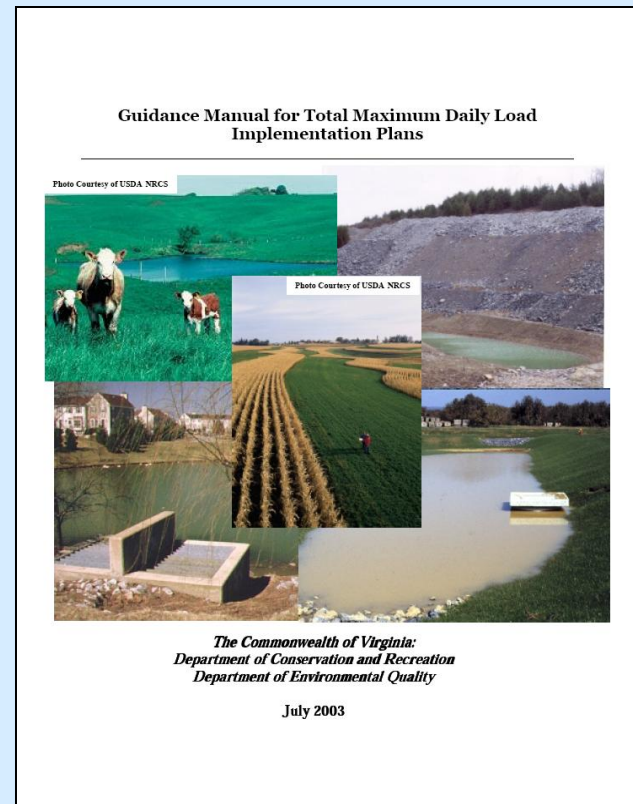
What is a TMDL Implementation Plan?

- TMDL study tells us what we need to do, TMDL implementation plan tells us **how**
- Outlines **actions** that can be taken to meet TMDL allocations
- Serves as a **guide** for implementation efforts



Why Implementation Plans?

- Implementation Plan development is required by state legislation (WQMIRA)
- Supported by federal, state and local organizations
- Procedures outlined in DCR & DEQ Implementation Plan Guidance Document



What goes into an implementation plan?

- Identify Improvement projects
- Actions to improve water quality: BMPs, etc
- Costs and Benefits
- Project timeline
 - Implementation goals
 - Implementation milestones
- Roles and responsibilities of stakeholders
- Potential funding opportunities
- Public Participation

Integration with other Watershed Plans

- Need to account for and acknowledge other planning activities within the watershed
- Coordinate with other water quality plans:
 - Watershed plans/roundtables
 - Local Comprehensive Plans
 - Green Infrastructure Planning
 - Water Supply Plans



Implementation Plan Development

- Implementation Plan will be done **locally**
- Stakeholders will have the opportunity to participate in the plan development
 - Public meetings
 - Working groups
 - Steering committee

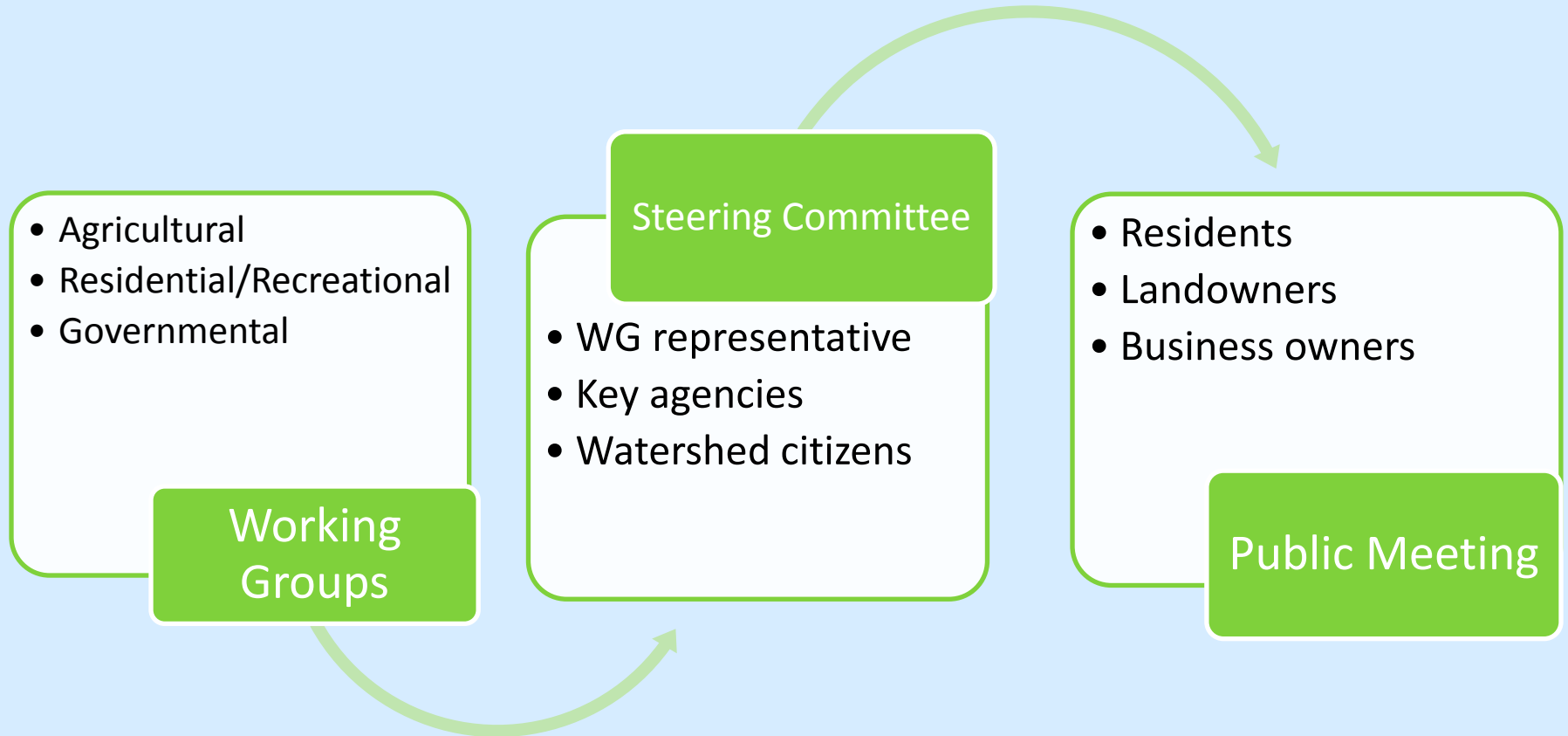


Roles Citizens Can Play During Implementation Plan Development



- Provide additional detail on watershed
- Review/suggest implementation strategies
- Identify potential implementation impediments
- Identify local funding sources/partnerships
- Assist with implementation projects

Public Participation



Steering Committee

- Responsibility: Guide the IP development process
 - Assess input from working groups
 - Address community concerns/suggestions as funneled through the WG's
 - How can process be improved?
- Membership:
 - DCR, DEQ, NRCS, VDH, local governments, SWCD, Working group representatives
- Meet during IP development process

Working Groups

- Responsibilities:
 - Provide “representative, interest based” input
 - Review technical/data analysis from Resource Team
- Interests that may coalesce to form a Working Group
 - Agriculture
 - Residential/Urban
 - Recreation
 - Government
 - Watermen
 - Marinas
 - Others?
- Level of Activity
 - Meet at least 2 times during IP development process



Working Group Responsibilities and Tasks

- Inform Resource Team about perceived pollutant sources
- Enlighten Resource Team about on-going/needed pollution control activities
- Review possible implementation strategies from an interest-based perspective
- Discuss alternative funding sources/partnerships
- Identify outreach methods for engaging peers in implementing pollution control measures
- Identify constraints to implementing pollution control measures

Public Meetings

- Provide forum for public comment
- First meeting
 - Offer overview of TMDL program
 - Kick-off implementation plan process
 - Solicit participation in working groups and steering committee
- Final meeting
 - Present draft TMDL Implementation Plan



Potential Control Measures

Residential

Control Measure	Delivery Pathway to Stream	
	Direct	Runoff
<u>On-site Sewage Disposal Systems</u>		
Septic Tank Pump-outs		✓
Hook-up to Sanitary Sewer	✓	✓
Septic System Repair		✓
New Conventional Septic System	✓	✓
New Alternative On-site Sewage Disposal System	✓	✓
<u>Pet Waste Management</u>		
Pet Waste Education Program		✓
Pet Waste Enzyme Digesting Composters		✓
Confined Canine Unit Waste Treatment System	✓	✓
<u>Stormwater Runoff Best Management Practices</u>		
Vegetated Buffers		✓
Rain Gardens		✓
Infiltration Trenches		✓

Potential Control Measures

On-site Sewage Disposal Systems



Septic System



Septic System Replacement



Septic System
Repair



Alternative On-site Sewage
Disposal System

Potential Control Measures

Composters & Stormwater BMPs



Pet Waste
Composters



Vegetated Buffer
(No Mow Zone)



Rain Garden



Infiltration Trenches

Potential Control Measures

Agricultural

Control Measure	Delivery Pathway to Stream	
	Direct	Runoff
<u>Livestock Exclusion and Pasture</u>	✓	✓
Livestock Exclusion System with 35' buffer	✓	✓
Livestock Exclusion System with 10' setback	✓	✓
Small Acreage Grazing System with 35 ft setback	✓	✓
Stream Protection with 35' buffer	✓	✓
Improved Pasture Management		✓
<u>Cropland</u>		
Permanent Vegetative Cover on Cropland		✓
Reforestation of Erodible Crop & Pastureland		✓
Manure/biosolids Incorporation into Soil		✓

Potential Control Measures

Livestock Exclusion and Pasture



Exclusion
Fencing



Riparian Buffer



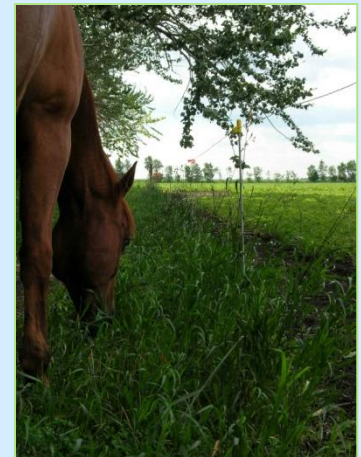
Cross-fencing



Watering
Trough



Hardened
Crossing



Horse Pasture
Management

Control Measure Quantification

- Spatial analysis (e.g., GIS)
- DCR Agricultural BMP Database
- SWCD, VDH, & DEQ records
- TMDL development document
- Input from Working Groups and Steering Committee

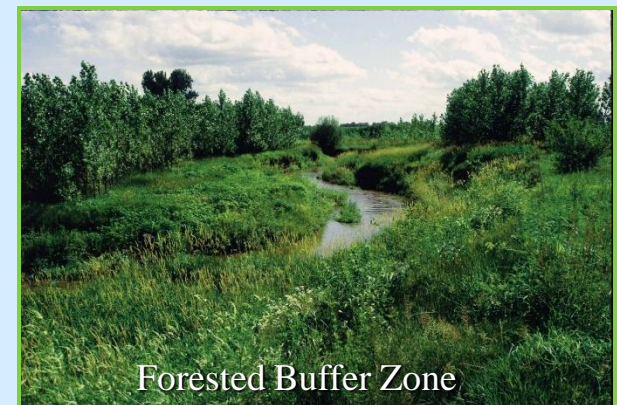


Implementation Costs

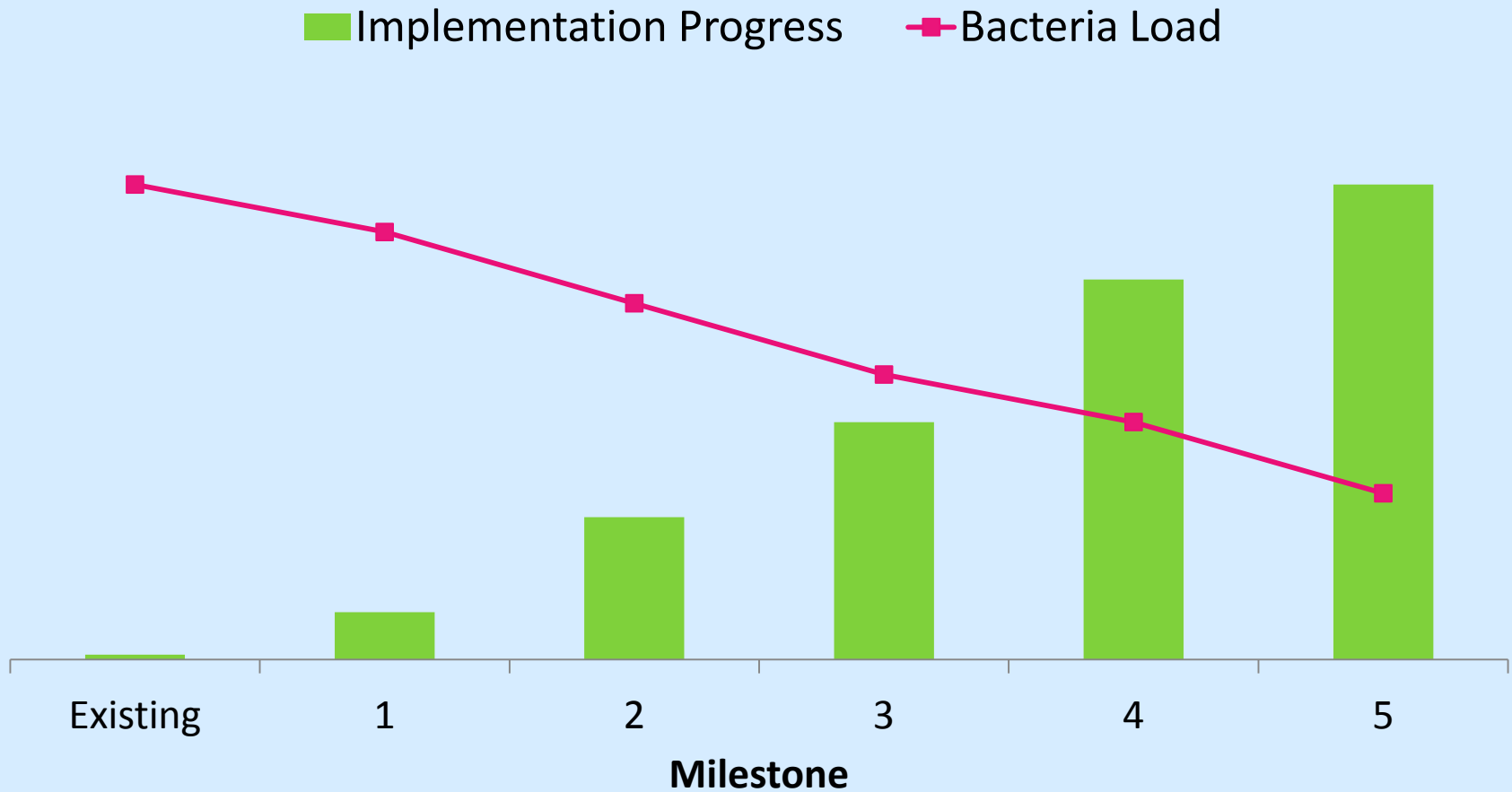
- Control Measure Cost
 - Number of units multiplied by unit cost
- Technical Assistance (TA) Cost
 - Full time equivalents multiplied by unit cost
- Total Cost = Control Measure Cost + TA Cost

Measurable Goals & Milestones

- Establish milestones
 - Implementation
 - Water quality
- Evaluate progress
 - Develop tracking & monitoring plans
 - Revisit implementation plan to modify strategies, as needed.



Evaluate Progress - Example

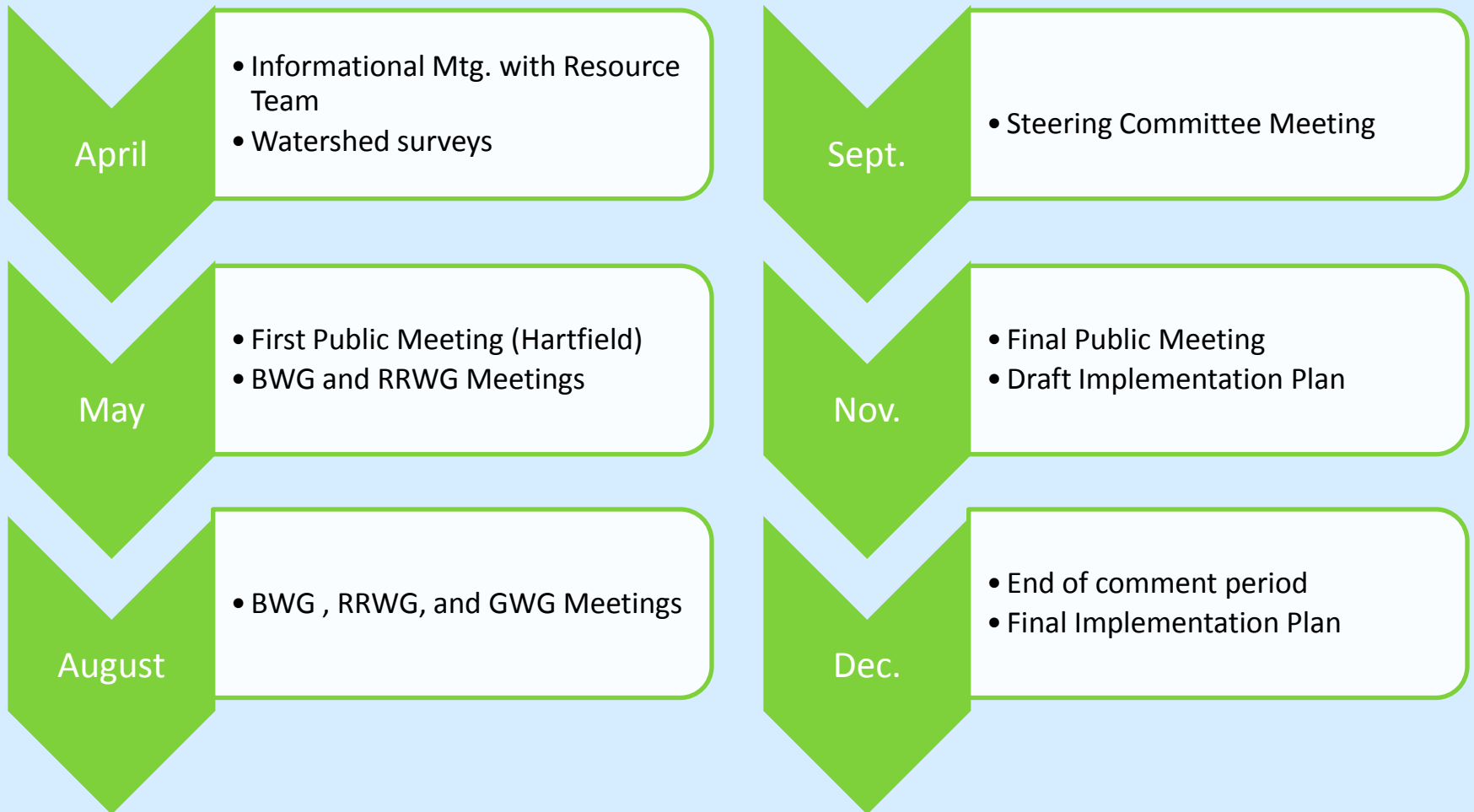


Funding for Implementation Projects

- Water Quality Improvement Fund
- VA Agricultural Best Management Cost Share and Tax Credits
- Community Development Block Grant
- Wetland Reserve Program
- Wildlife Habitat Incentive Program
- National Fish and Wildlife Foundation
- Community Foundation
- Grants through Planning District Commissions
- Non-profits, such as Friends groups

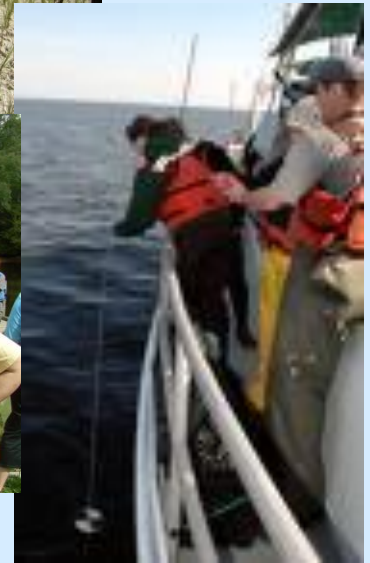


Project Timeline



One last point to remember

TMDL's and IP's are a mechanism for restoring water quality and are an **opportunity** for diverse groups of people to come together to improve watershed health



Contact Information



(Public comment period ends June 23, 2012)

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